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10/531,127

04/08/2005

Douglas Hohlbein

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EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT

PAPER NUMBER

1744

MAIL DATE

DELIVERY MODE

08/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/531,127

Applicant(s)

HOHLBEIN, DOUGLAS

Examiner

Laura C. Guidotti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 08202007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 20 August 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Therefore, CN 2324988 has not been considered as there was not a copy of this foreign patent document submitted. It appears also that there were two duplicate copies of CN 1261770 submitted.

### ***Claim Objections***

2. Claims 1-9 objected to because of the following informalities:

Claim 1 Line 7, it appears that the Applicant has inadvertently deleted the word "axis" from the claim. There is not antecedent basis for "*the longitudinal*."

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-5, 8, 10, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Halm, US 5,651,158.

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Halm discloses the claimed invention including a handle having a longitudinal axis (43), a flexible head secured to the handle (41), the head flexibly mounted to the handle (see Figures 4A-4F), the head having an upper face (face facing upwards in Figures 4C-4E) with fingers (46) flexibly mounted thereon (via 45; Column 5 Lines 17-19), and ribs (45) connecting the fingers to the upper face (see Figures 4A-4F; Column 5 Lines 17-19), whereby flexure of head under compression or expansion along the longitudinal axis causes a longitudinal movement of ends of the ribs with respect to each other and a lateral movement of the fingers relative to a longitudinal axis (see Figure 4D; Column 5 Lines 27-32). Regarding claim 4, the fingers (bristles 46) are mounted in openings in a flexible face of the head (see Figures 4A-4F). Regarding claim 5, the ribs interconnecting the fingers and flexible face are formed of polypropylene (Column 3 Lines 11-27). Regarding claims 8 and 16, the head contains fingers along at least one edge of the head (bristles 46 on an upper edge of the head, see Figure 4D) and cleaning elements on at least another portion of the head (on the outermost edge of 42, Figure 4B).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4-8, 10, 13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohlbein, US 6,088,870 in view of Halm, US 5,052,071.

Hohlbein discloses the claimed invention including a handle having a longitudinal axis (12), a flexible head secured to the handle (18; Column 3 Lines 15-18), the head mounted to the handle (Figures 1-2), the head having an upper face (14) with fingers (16, 26) flexibly mounted thereon (via 20, 22; Column 3 Lines 32-42; Figure 4), and ribs (22) connecting the fingers to the upper face (see Figure 4), whereby flexure of head under compression or expansion along the longitudinal axis causes a longitudinal movement of ends of the ribs with respect to each other and a lateral movement of the fingers relative to a longitudinal axis (as ribs 22 are flexible, one is capable of flexing the head under compression or expansion along the longitudinal axis to cause a longitudinal movement of ends of ribs and lateral movement of fingers relative to the longitudinal axis, Figure 4 in particular shows lateral movement of the fingers; Column 3 Lines 43-50). Regarding claim 4, the fingers (16, 26) are mounted in openings in a flexible face of the head (see Figures 2-6). Regarding claim 5, the ribs interconnecting the fingers and flexible face are formed of polypropylene (Column 4 Lines 25-26). Regarding claim 6, the fingers include adjacent fingers (16, 26) that are connected by off-center ribs (22) on one side of the adjacent fingers whereby all fingers connected by those ribs move in the same lateral direction when the head is flexed along the longitudinal axis (as shown in Figure 4). Regarding claims 7 and 15, multiple fingers including adjacent fingers (16, 26) are connected by off-center ribs (22) on opposite sides of adjacent fingers (as shown in Figure 3) whereby the adjacent fingers move in opposite directions when the head is flexed (as shown in Figure 4). Regarding claim 10, the ribs extend from the upper face and connect the finger to the upper face (see

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Figures 5-6, the rib extends at the upper face to connect the finger to the upper face), the ribs disposed at an acute angle to the longitudinal axis (see Figure 3, some ribs 22 are at an acute angle to longitudinal axis A), and flexure of the head under compression along the longitudinal axis causes a lateral movement of the finger relative to the longitudinal axis of the toothbrush (as shown in Figure 4). Regarding claim 13, the finger (26) extends through an aperture in the face of the head (see Figure 6). Regarding claims 8 and 16, the finger comprises multiple fingers connected by ribs and some of the fingers are disposed along at least one edge of the head (as shown in Figure 3), and the head comprises cleaning elements disposed thereon (16). Hohlbein does not disclose that the head is flexibly mounted to the handle along a longitudinal axis.

Halm teaches a toothbrush head (10) flexibly mounted to a handle (14) along a longitudinal axis (as shown in Figure 1) by means of a flexible portion (18) so that when pressure is applied to the head, the head portion will be able to be moved at an angle to the handle, and resiliently will be able to revert to its original position after releasing the pressure (Column 1 Lines 52-58) to prevent the application of too much or insufficient pressure to teeth and gums (Column 1 Lines 11-26).

It would have been obvious for one of ordinary skill in the art to modify the head and handle Hohlbein so that they are flexibly mounted, as Halm teaches, so that when a user is applying pressure to the head during brushing the head will be capable of moving at an angle relative to the handle so that a user is brushing at an optimal angle

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and so that the user does not apply too much or insufficient pressure to gum and tooth surfaces while brushing.

5. Claims 1-3, 10-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heymann et al., US 2,154,846 in view of Halm, US 5,052,071.

Heymann et al. disclose the claimed invention including a handle having a longitudinal axis (16), a flexible head secured to the handle (unclear, see Page 1 Column 2 Line 13; portion that carries 11, see leftmost portion of Figure 1), the head mounted to the handle along a longitudinal axis (Figure 1), the head having an upper face (unlabeled, uppermost face as extending out of the page in the direction of 10 as shown in Figure 1) with fingers (10) flexibly mounted thereon (see Figures; Page 2 Column 2 Lines 1-6), and ribs (material formed between each of the fingers, see portion that includes 12) connecting the fingers to the upper face (see Figures), whereby flexure of head under compression or expansion along the longitudinal axis is capable of causing a longitudinal movement of ends of the ribs with respect to each other and a lateral movement of the fingers relative to a longitudinal axis (as Page 2 Lines 1-2 admit that the fingers are have lateral movement relative to the longitudinal axis, in that they use the wording that they are "somewhat more flexible in a direction transverse of the handle" alleging their capability of flexibility in other directions). Regarding claims 2 and 11, a portion of the fingers comprise a soft elastomeric material (Page 1 Column 2 Line 13). Regarding claims 3 and 12, a composition of the rib material is stiffer than the elastomeric material of the fingers (as the rib includes metal cores, Page 1 Column 2 Lines 13-23). Regarding claim 10, the ribs extend from the upper face and connect the

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finger to the upper face (see Figures), the ribs disposed at an acute angle to the longitudinal axis (as the ribs include the material between the fingers), and flexure of the head under compression along the longitudinal axis causes a lateral movement of the finger relative to the longitudinal axis of the toothbrush (Page 2 Column 2 Lines 1-6).

Regarding claim 14, multiple fingers (10) are connected by ribs on one side of the figures (as the ribs include the material extending between the fingers) whereby the fingers move in opposite lateral directions when the head is flexed along the longitudinal axis (Page 2 Column 2 Lines 1-6). Heymann et al. does not disclose that the head is flexibly mounted to the handle.

Halm teaches a toothbrush head (10) flexibly mounted to a handle (14) along a longitudinal axis (as shown in Figure 1) by means of a flexible portion (18) so that when pressure is applied to the head, the head portion will be able to be moved at an angle to the handle, and resiliently will be able to revert to its original position after releasing the pressure (Column 1 Lines 52-58) to prevent the application of too much or insufficient pressure to teeth and gums (Column 1 Lines 11-26).

It would have been obvious for one of ordinary skill in the art to modify the head and handle Heymann et al. so that they are flexibly mounted, as Halm teaches, so that when a user is applying pressure to the head during brushing the head will be capable of moving at an angle relative to the handle so that a user is brushing at an optimal angle and so that the user does not apply too much or insufficient pressure to gum and tooth surfaces while brushing.

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6. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohlbein, US 6,088,870 and Halm, US 5,052,071 as applied to claims 8 and 16 respectively, in view of Urbush, US 3,316,576.

Hohlbein and Halm disclose all elements mentioned above, however do not disclose that cleaning elements are moved by a powered source in the toothbrush.

Urbush teaches a toothbrush comprising a handle (12), a head (18) connected to the handle by a neck element (14), and a powered source that is a mechanical vibratory device (portions 40, 41, 42, 43) which causes the head and thus the cleaning elements (19) to vibrate (via 21; Column 2 Lines 33-39). Urbush utilizes a conventional toothbrush (Column 1 Lines 48-49) and the device is capable of using various sizes and types of conventional toothbrushes in the vibratory portion (Column 1 Lines 13-20).

It would have been obvious for one of ordinary skill in the art to modify the toothbrush of Hohlbein and Halm to be attached to a toothbrush wherein the cleaning elements are moved by a powered source in the toothbrush, as Urbush teaches, in order to provide vibrating driven cleaning elements to beneficially remove plaque from teeth.

### ***Response to Arguments***

7. Applicant's arguments filed 20 August 2007 have been fully considered but they are not persuasive.

As previously stated above, Hohlbein and Heymann (and now presently Halm '158) each disclose that flexure of the head under compression or expansion along the longitudinal axis causes laterally movement of the fingers relative to the longitudinal

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axis. In Hohlbein, ribs 22 are flexible, one is capable of flexing the head under compression or expansion along the longitudinal axis to cause a longitudinal movement of ends of ribs and lateral movement of fingers relative to the longitudinal axis (Figure 4 in particular shows lateral movement of the fingers; Column 3 Lines 43-50). In Heymann, Page 2 Lines 1-2 admit that the fingers are have lateral movement relative to the longitudinal axis, in that they use the wording that they are "somewhat more flexible in a direction transverse of the handle" alleging their capability of flexibility in other directions.


### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Laura C Guidotti  
Patent Examiner  
Art Unit 1744

lcg